What is claimed is

1.   A field-effect transistor comprising:

a gate electrode formed at one side of a base substrate;

a source electrode formed at the one side of the base substrate;

a drain electrode formed at the one side of the base substrate;

an insulation layer formed between the gate electrode and the source electrode and between the gate electrode and the drain electrode;

an organic semiconductor layer formed around the source electrode and the drain electrode; and

a reformed layer attached between the insulation layer and the organic semiconductor layer and containing a compound having the CN group in a molecule.

2.   A field-effect transistor comprising:

a gate electrode formed at one side of a base substrate;

a source electrode formed at the one side of the base substrate;

a drain electrode formed at the one side of the base substrate;

an insulation layer formed between the gate electrode and the source electrode and between the

gate electrode and the drain electrode;

an organic semiconductor layer formed around the source electrode and the drain electrode; and

a reformed layer attached between the insulation layer and the organic semiconductor layer and composed of only a compound having the CN group in a molecule.

3. The field-effect transistor according to claim 1 or 2, wherein the compound having the CN group in a molecule contained in or making up the reformed layer is expressed by the following chemical formula:

[Chemical formula 1]

$$\left(NC \right)_{\overline{n}} R^1 - \underset{\underset{(R^4)_m}{\overset{R^2}{|}}}{M} - R^3$$
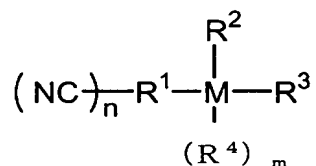
(in the chemical formula 1, R^1 represents the alkylene group or the polymethylene group whose carbon number k is 1 to 20 and the alkylene group and the polymethylene group may have an ether linkage, n represents an integer of 1 to 2k, R^2, R^3, and R^4 each represents an organic group whose carbon number is 1 to 20 independently of each other and at least one of R^2, R^3, and R^4 is the alkoxy group whose carbon number is 1 to 5 or the

alkylamino group having an alkyl chain whose carbon number is 1 to 20, and M represents at least one kind of atom of Si, Ti, and Al, and when M is Si or T, m=1 and when M is Al, m=0.)

5   4.   The field-effect transistor according to claim 1 or 2, wherein the compound having the CN group in a molecule contained in or making up the reformed layer is 2-cyanoethyltriethoxy silane.

5.   The field-effect transistor according to

10   claim 1, wherein the concentration of the compound having the CN group in a molecule contained in the reformed layer is less than 50 mass%.

6.   The field-effect transistor according to claim 1, wherein the thickness of the reformed

15   layer is 0.5 to 500 nm.

7.   The field-effect transistor according to claim 1 or 2, wherein C_{min} representing the minimum value of the electrostatic capacitance in the electrostatic capacitance-gate voltage

20   characteristic of the field-effect transistor and C_{max} representing the maximum value of the electrostatic capacitance in the electrostatic capacitance-gate voltage characteristic of the field-effect transistor satisfy the following

25   expression:

$C_{max} \leq C_{min} \times 2$.

8. The field-effect transistor according to claim 1 or 2, wherein the curve of the rate of change of the drain current obtained from the drain current-time characteristic has a local extreme value, the first derivative is substantially positive, or the rate of change exceeds 1 when 10 seconds elapse after the gate voltage is applied.

9. The field-effect transistor according to claim 2, wherein the hydroxyl group is introduced to the surface or the surface layer of the insulation layer.